INDEX TO VOLUME XVI.

Members Elected.

*Members who have accepted by letter. †Members who have taken their seats.

	Page.		Page.
Ackerman, R	281	Hartranft, J. F	289
Alcantara, Dom Pedro d'	289	*Hunt, J. G	183
*Archer, T. C	233	*Johnson, J	281
†Bache, T. H	389	*†McKean, W. V	388
*Barcena, M	388	*†McQuillen, J. H	389
*Baumhauer, E. H. von	388	*Moorhouse, G. R	665
*Bell, I. L	233	*Nordenskiold, A. E	234
*Biddle, C	389	*Owen, P. C	233
*Brackett, C. F	389	*Phillips, H. Jr	389
*†Brown, H. A	389	*Reed, T. B	665
*Crane, T. F	389	*Reuleaux, F	388
*Dannfelt, C. J	234	Riley, C. V	234
*Davenport, S	289	*†Roberts, W. M	289
*Douglas, J	665	†Rothrock, J. T	665
*Draper, H	665	*†Shields, C. W	388
*Eddy, H. T	389	*Siemens, C. W	389
*Etting, F. M	233	*Stevenson, J. J	665
Geikie, J	233	*Strawbridge, G	389
*Gilman, D. C	233	*Stuart, G	388
*†Goodell, W	389	*Thayer, M. R	389
Gowan, F. B	389	†Thompson, E	234
*Grote, A. R	289	Wagner, R. von	388
*†Hart, J. M	389		

Members Resigned.

Hare, J. J	334
Hunt, J. G	334
Reeves, S. J	231
Smith, F. G	336
Smith, C. E	336

Members Deceased.

Allen, G	277	Hart, J. S	662
Anderson, H. J	390	Hughes, J	288
Böckh, Wm	53	Jardine, Wm	288
Braun, A	664	Kaup, J. J	281
*Carson, J	381	Lewis, Elisha J	390
*Cresson, J. C	196	Lowrie, W. A	291
*Cuyler, T	230	Meek, F. B	386
Davis, C. H	393	Smith, R. S	386
DesMoulins, C	198	Stokes, W. A	666
Hakakian Bey	230		

*NOTE.—Dr. J. B. Biddle, appointed to prepare obituary notice of Dr. Joseph Carson, ... 381, 385
Mr. Frederick Fraley, " " " " " Prof. J. C. Cresson, ... 196
Mr. Henry M. Phillips, " " " " " Mr. Theodore Cuyler, ... 230

Obituary Notice Read.

Page.
Binney, H., by Judge William Strong, S. C. U. S 1

Change of Residence.

Böhtlinck, M 277

Photographs of Members Received.

Anderson, G. W 392
Archer, T. C. 282
Booth, J. C 179
Göppert, H. R. 282
Hunt, T. S. 284
Lea, I 277
Mayer, A. M 336
Prime, F. 389
Smith, D. B. 385

Special Correspondence.

Abbe, Cleveland 230
Anthon, C. E. 197, 280
Barber, E. A. 393
Etting, F 218, 231
Freiburg Natural History Society 284
Henry, J. 289
Holland Society of Science. 284
Holman, A. J. & Co., (Elliot Bible) 212, 213, 231
K. Leop. Car. Deutsch Akademie der Naturforscher. 213
Kesselmeyer, (Calendarium Perpetuum) 237, 280, 286
Librarian of Griswold College. D. S. Sheldon 284
Linn, J. P. (Col. Bard's MS. Journal). 337, 382
Matile, G. A., (Archæological Specimens). 282, 283
Philadelphia College of Pharmacy 213
R. Astronomical Society. 229
R. Irish Society 212
Society at Wurtemburg 284
Stevenson, J. J 393
Trübner & Co. 283
Wellington Museum, New Zealand 289

Business of the Society.

Appropriations, Annual 339
Appropriation of $500 for binding serials 185
Arctic Expeditions, Resolutions concerning 387
Building Fund Trustees' Annual Report 183
Catalogue, Librarian authorized to print 334
Committee on Wooten's Process 333, 336, 667
Committee of the Eulogium of Hon. Horace Binney 54
Committee on Dr. Valentini's paper 53, 198, 230, 277, 286, 288
Committee on Two Medical Theses 230, 231, 232, 235, 237
Committee to consider the propriety of attempting a representation of the progress of research in Physical Science in the United States, at the Centennial. 183, 197, 212, 218
Curators, Inquiry and Report concerning the Cabinet of Coins. 234, 335
Exchange of Duplicates with the Princeton Museum 288, 290
Exchange for Poggendorffs' Beiblätter. 291
Finance Committee Reports. Catalogue 233, 339, 391
Hall Committee. 54, 288, 291
Librarian Elected. 84, 182, 384
Metric System, Resolutions of Mr. Frazer. 396, 665
Michaux Legacy, Dividend January 1st, 1876. 197
Committee on. 283, 334, 339

Page.

Resolution; Report 663, 667
Vacancies filled 663
Michaux Grove, Committee on the 278
Resolution in regard to 334
No. 96 Proceedings laid on the table 381
No. 98 Proceedings laid on the table 383
Publication Committee. Davenport, S. S. 662
Sinclair's Contract. Plates of Prof. Cope 663
Standing Committees appointed 182, 384
Treasurer's Reports 231, 384
Use of the Hall granted to the Commissioners of the Geological Survey . . 281
Wooten's application for Premium 288

Written Communications in the Proceedings.

ALLEN, C.
Contributions to the Physical Geography of the United States 61

ANTHON, C. E.
On a Silver Louis of Fifteen Sous, struck under Louis XIV, for circulation 281, 293

ASHBURNER, CHARLES A.
A measured section of the Palæozoic Rocks of Central Pennsylvania, from the top of the Allegheny River Coal Series, down to the Trenton Limestone 391, 519

BLASIUS, W.
A Brief Discussion of some opinions in Meteorology 198

BLODGET, LORIN
Remarks suggested by Mr. Blasius's paper on same "Opinions in Meteorology." 205

BRIGGS, ROBERT
The flow of water through an opening in a pierced plate 310

BRITTON, J. BLODGET.
Improved mounted Burettes for the Volumetric Analysis 192
American condensed Peat. Experimental tests to determine its value for Blast and Puddling Furnace use 656

CARLL, JOHN F.
Oil Well Records, selected from the collections of Mr. J. F. Carll . . . 346
On the First Systematic Collection and Discussion of the Venango County Oil Wells of Western Pennsylvania. By E. S. Nettleton, C. E. Prepared and communicated by J. F. Carll 383, 429
Part of a Report by J. F. Carll, describing the success and method of his efforts to regulate and harmonize the R. R. and Oil Well levels above tide in Northwestern Pennsylvania 667

CHASE, P. E.
Nebular Action in the Solar System 184
A note on Suggestions of Cosmical and Kinetic Harmony by Profs. Alexander, Pierce, Lovering and others, and on some mathematical principles involved 281
On some Fundamental Propositions of Central Force 298
On Centres of Aggregation and Dissociation 496

COPE, E. D.
A Continuation of Researches among the Batrachia of the Coal Measures of Ohio 386, 573
On a Dinosaurian from the Trias of Utah 579
On a New Proboscidian 584
On the Brain of Coryphodon 616

COPE, E. D. *Page.*

Catalogue of 43 species of living Batrachia; entitled, Synopsis of cold-blooded Vertebrata procured by Prof James Orton during his Explorations in Peru, in 1876-77 666

FRAZER, PERSIFOR, JR.

Note on the "Lithologie du Fond des Mers" of Delesse. 238
The Approaches to a Theory of the cause of Magnetic Declination . 642, 662
Regarding some Mesozoic Ores. 651
Facts observed in the Survey of York and Adams Counties, &c 664

GATSCHET, ALBERT S.

Remarks upon the Tónkawa Language. 291, 318
The Timucua Language 626, 662

HALL, CHARLES E.

On the progress of the Museum and Palæontological Work of the Second Geological Survey of Pennsylvania for the year 1875 55
Contributions to Palæontology from the Museum of the Second Geological Survey of Pennsylvania 621, 662

HART, JOHN

The Fairy Folk, or the Fairy Lore of Spencer and Shakespeare. 335

HARTSHORN, HENRY

On some disputed points in Physiological Optics 218, 232

HAYNES, FRANCIS L.

On the Asserted Antagonism between Nicotin and Strychnia. . . . 395, 597

KANE, THOMAS L.

Coahuila 383, 391, 561

KIRKWOOD, DANIEL

On Eight Meteoric Fireballs seen in the United States, from July, 1876 to February 1877 . . . . . 395, 590
On the Relative Ages of the Sun and certain of the Fixed Stars . . . 622, 662

KÖNIG, GEORGE AUGUSTUS

On Astrophyllite, Arfvedsonite and Zircon, from El Paso County, Colorado, and a colorimetric test of Titanium before the blow-pipe 509

LE CONTE, JOHN

Tabular Synopsis of the Rhyncophora of America 381, 417

LESLEY, J. P. *See Allen, Carll, above.*

LESQUEREUX, LEO.

On the progress of the North American Carboniferous Flora, in preparation for the Second Geological Survey of Pennsylvania. . . 397

MANSFIELD, A. K.

On Refraction Tables. 381, 425

NETTLETON, E. S. *See Carll above.*

PRICE, E. K.

On the Glacial Epoch 217, 231, 241
A circular adopted by the Commissioners of Fairmount Park. Trees for the Park. Committee Report. The Michaux Trees 277, 340

SADTLER, SAMUEL P.

On the Composition of the Natural Gas from certain Wells in Western Pennsylvania 206
Same. Wells in Western Pennsylvania and New York. 585

SMITH, E. F.

On some new chlorine derivations from Totuole 667

STRONG, WILLIAM — *Page.*

Obituary notice of Horace Binney 1

TROWBRIDGE, DAVID

On the Atmospheres of the Sun and Planets 290, 327

WALTER, T. U.

On the erroneous nature of certain statements respecting the foundations of the Great Tower of the Public Buildings, corner of Broad and Market Streets 337

WOOTTEN, JOHN E.

A Combination of Apparatus by which ordinary Anthracite coal-waste from the Dirt-banks of the Mines can be successfully and profitably burned in the furnaces of stationary and locomotive boilers 214

Communications not yet Published.

BLASIUS, WM.

The Progress in Meteorology in the last 25 years 394, 395

DEWEES, JOHN H.

Notes on the results of a survey of the Iron Ore Beds of Pennsylvania. 395

FRAZER, P.

Communication from Mr. Beyton Smith, ... 232

GUTERBRIDGE, ALEX. E., JR.

On the Wonderful divisibility of Metallic Gold 390

HONEYMAN, MR.

On the Varieties of Transported Boulders on the Nova Scotia Shore 237, 664

Verbal and Short Communications.

BLODGET, TATHAM, PRICE.

On the Clays and Gravels underlying the City 480

BLODGET, L.

On the Act of Congress ordering a new Arctic Expedition 383, 387

BRIGGS, R.

On the Need of Circumspection in offering and decreeing Premiums to Inventors before continuous and complete Success 289

BRIGGS AND HOUSTON.

On the Vena Contracta 290

On Results obtained with a Crooke Radiometer in a Geissler Tube . . 237

BRITTON, J. B.

On some Specimens of Artificial Fuel manufactured from the Peat Bogs near Syracuse, N. Y 381

On some Specimens of Lignite and Peat and Preserved Fuel from Peat manufactured in N. Y 664

CHASE, P. E.

Japanese translation of Dr. Henry Hartshorne's book entitled "Essentials of the Practice of Medicine." 180

Certain Conclusions deducible from Curves of Rainfall in North America 182

On a Paper of Dr. D. Ast, on Observations on the Spectra of Metals in the Electric Current 196

CHASE, P. E. *Page.*
Exhibited Diagrams representing Certain Mathematical and Astronomical Relationship, Orbital Movement, and Planetary Distance 218
On some Astronomical Ratios favoring the Nebular Hypothesis 231
Certain Relationships between the Velocity of Light and the Rotation of Mr. Crooke's New Rotation Apparatus, and with the "Selenium Eye." 232
On the Closeness of Agreement between the Estimates of Solar Radiating Force Derived from Crooke's Radiometer and the Nebular Hypothesis 283
On Intermercurial bodies revolving around the Sun. 290
On Swedish Statistics of Color Blindness 339
Experimental Results illustrating his 6th, 7th and 10th fundamental propositions of Central Force 394

COPE, E. D.
Fossil Remains of a Dinosaur. 386, 391
Scratched Figures on Coal Shales 391
Vertebral Column of an Elasmosaurus. 393
New Species of Mastodon 394
Cast of the Brain Cavity of Coryphodon Elephantopus 395
Cast of the Cranial Cavity of a Procamelus Occidentalus. 666

CRESSON, C. M.
Record and analysis of the Continental Hotel Artesian Well 181
On Experiments with Wooten's Method of Utilizing Coal Dust 283
On Impure Water taken from a well near Trenton. 291

DAVENPORT, S.
On the Eucalyptus trees of Australia 278

FRAZER, P., JR.
On Possible Effects on Species and Genera from Variations in the proportionate percentage of the chemical elements of their physical constitution, &c. 235
Observations at a visit to the Bamfordville Zinc Works in Lancaster Co., Pa 292
On the Upward Percolation of Marsh Water. 292
On a New Compass devised by Major Brooks 662

GENTH, F. A.
On his discovery of a new mineral, the Telluride of Mercury. 188

HALL, C. E.
List of genera and species of Fossils determined by him during 1874 and 1875 . . . for the Geological Survey 182

HART, J.
On the "Death Mask of Shakespeare." 196

HOUSTON, E. J.
On the so-called "New Force." 53, 217
On the Standing of the Mercury, February 5th, in the High School Barometer 206
On Observations made while using Plucker Tubes for obtaining the Hydrogen Spectrum. 233
On Results obtained with a Crooke Radiometer in a Geissler Tube. .
On some Experiments with a 19" Fresnel Lens and a Crooke's Radiometer 279
Description of a new Telegraphic Machine called a "Pneumo-dynamic Relay Sounder." 286
On the Vena Contracta 290

HUNT, T. S. *Page.*

On the History of Geological Opinion respecting the Metamorphic Strata of the Alps 285

KANE, T. L.

Preliminary Communication of his views of the Sub-carboniferous Formation, and the Structure of McKean Co., Pa 231

KÖNIG, G. A.

On a Scale of Colorimetry for minerals containing Titanic Acid. 383

LESLEY, J. P.

On a List of 2,500 Station-levels in Pennsylvania, collected from Railroad and other Records by Mr. Charles Allen 182

On three casts of an Orthis of the Trenton (Baba) Limestone found by Mr. Hall 211

On the "Fond des Mers" of M. Delesse 240

On a Geological Map of B. S. Lyman's Official Survey of the Island of Yesso 284

On some Experiments on mixed Anthracite and Bituminous slacks. . 288

On Mr. Lesquereux's new discoveries in the Carboniferous Flora of North America 339, 382

On the importance of Prof. Sadtler's Gas Analysis investigations in a geological sense 303

PRICE, E. K.

On a Piece of Dry Light Wood obtained from a city well 180

Syllabus of Lectures on Silvyculture by J. T. Rothrock 668

SADTLER, S. P.

Results of Recent Gas Analyses 393

THOMPSON, F.

On the Investigations of the Pennsylvnnia R. R. as to the values of various signal Lights, &c 339

Miscellaneous.

Resolution in regard to the Preservation of the Collections of the Geological Survey 285

Donations of Copies of Original Antiquities from the Princeton Museum, by Prof. Matile. 287

Mr. Britton's Resolution to Relieve Charitable Devises and Bequests from Collateral Tax 388

Mr. Blodget's Disclaimer of any such statements and opinions respecting the character and condition of the Foundations of the Masonic Temple and Public Buildings as are ascribed to him by some mistake in Proc. 97, p. 181 382

Joint Resolution offered to Congress, for a Joint Commission having for its object the Scientific Exploration of the Border States of Mexico and the United States. 392

Preamble and Resolutions concerning the appointment of Dr. J. L. LeConte as United States Commissioner of Agriculture 395

On supplying Prof. Draper with a set of Proceedings 663